

REMARKS

The pending final Office Action addresses claims 1-37 and 39. Claims 1-6, 8-10, 13, 15-29, 31-34, 36, 37, and 39 stand rejected, and claims 11 and 12 are objected to.

Rejections Pursuant to 35 U.S.C. §102

(1) French Patent No. 2,816,195 of Taylor

The Examiner continues to reject claims 1-6, 8-10, 13, 15-29, 31-32, 34, 36-37, and 39 pursuant to 35 U.S.C. §102(b) as being anticipated by French Patent No. 2,816,195 of Taylor. In Applicants' Amendment and Response filed on August 21, 2006, Applicants argued that Taylor does not teach a connector member having at least one jaw integrally formed with a central portion as required by claim 1, or at least one connector member integrally formed on a terminal end of an elongate member as required by claim 37. In response, the Examiner first argues that "the law of anticipation does not require that the reference 'teach' what the subject patent teaches, but rather it is only necessary that the claims under attack 'read on' something in the reference." (Office Action dated November 2, 2006, p. 9.) Applicants are not relying on the disclosed invention, but rather are relying on positive structural limitations set forth in the claims to distinguish Taylor. Claims 1 and 37 do not read on the device disclosed by Taylor because Taylor does not teach a device having a jaw (claim 1) or connector member (claim 37) that is *integrally* formed on a central portion. The jaws of Taylor are separate components that removably mate to a central portion. The Examiner cannot overlook the clear structural limitations of the claims. The Examiner also argues that "the manner in which a device is intended to be employed does not differentiate the claimed apparatus from prior art apparatus satisfying the claimed structural limitations." (*Id.*) Again, Applicants are not relying on the intended use of the claimed invention to distinguish Taylor. The limitation that at least one jaw (claim 1) or connector member (claim 37) be integrally formed with a central portion is not an intended use, but rather is a positive structural limitation. Taylor cannot anticipate claims 1 and 37 unless Taylor specifically teaches each and every limitation of the claim. Since the jaws of Taylor are not *integrally* formed with a central portion, but rather are two separate components that mate to a cross piece, the Examiner's rejection is improper.

The Examiner also argues that "it has been held that forming in one piece an article, which

has formerly been formed in two pieces, and put together involves only routine skill in the art.” (*Id.* at p. 10, citing *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).) *Howard v. Detroit Stove Works* is not a standard applied to an anticipation rejection, but rather refers to an obviousness rejection pursuant to 35 U.S.C. §103. As stated above, for the prior art to anticipate the claimed invention, it must teach each and every element of the claim. Taylor does not teach a jaw or connector integrally formed on a central portion, and thus cannot anticipate claims 1 and 37. Applicants further note that it would not have been obvious to modify Taylor to have at least one jaw or connector member integrally formed with a central portion of the device. Such a modification is not only specifically contrary to the teachings of Taylor, but would require that the teachings of Taylor be entirely ignored and would render the device inoperative for its intended purpose. In particular, Taylor specifically teaches away from a one-piece device, stating that “one-piece members are inconvenient in that they cannot adapt to all situations, in particular not being able to accommodate all the different possible positions of the shoring rods.” (Taylor, paragraph 0003.) In order to overcome the disadvantages of one-piece devices, Taylor provides a device having jaws that are adjustably matable to a cross piece. As shown in Figure 1 of Taylor, each jaw or attachment piece (2) can be mated to a cross piece (5, 6) at one of several positions. Making either jaw integral with the cross-piece, as suggested by the Examiner, would thus require that the teachings of Taylor – namely the entire purpose of the invention - be specifically ignored. An integral device would also no longer perform the function intended by Taylor that the device be adjustable.

Accordingly, claims 1 and 37, as well as claims 2-6, 8-10, 13, 15-29, 31-32, 34, 36, and 39 which depend therefrom, distinguish over Taylor.

(2) *U.S. Patent No. 4,611,582 of Duff*

Claims 1-2, 5-6, 8, 13, 18-22, 24-29, 31-32, 34, 36-37, and 39 are rejected pursuant to 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,611,582 of Duff. In Applicants’ Amendment and Response filed on August 21, 2006, Applicants argued that Duff does not teach a connector member having at least one jaw integrally formed with a central portion as required by claim 1. In response, the Examiner gave the same arguments discussed above with respect to Taylor. Applicants arguments above relative to Taylor apply equally to Duff. That is, claims 1 and 37 positively recite a device having at least one jaw (claim 1) or connector member (claim 37) that is

integrally formed on a central portion, and Duff does not teach such a device. Like Taylor, Duff discloses jaws that are removably matable to a central portion. Duff therefore cannot anticipate claims 1 and 37. It also would not have been obvious to modify Duff to make one or both jaws integral with the central portion, as such a modification is not only specifically contrary to the teachings of Duff, but would require that the teachings be entirely ignored and would render the device inoperative for its intended purpose.

Rejections Pursuant to 35 U.S.C. §103

(1) French Patent No. 2,816,195 of Taylor

Claim 33 is rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over French Patent No. 2,816,195 of Taylor. As discussed above, independent claim 1 distinguishes over Taylor. Thus, claim 33 is allowable at least because it depends from allowable claim 1.

(2) U.S. Patent No. 4,611,582 of Duff

Claim 33 is rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,611,582 of Duff. As discussed above, independent claim 1 distinguishes over Duff. Thus, claim 33 is allowable at least because it depends from allowable claim 1.

Conclusion

Applicants submit that all pending claims are now in condition for allowance, and allowance thereof is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney for Applicants if such communication is deemed to expedite prosecution of this application.

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Respectfully submitted,



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PENDING CLAIMS

1. (Previously Presented) An implantable spinal cross-connector, comprising:
a central portion with at least one connector member formed on a terminal end thereof, the at least one connector member having
first and second opposed jaws, at least one of the jaws being selectively movable between a first, open position wherein the first and second jaws are positioned a distance apart from one another, and a second, closed position, wherein the first and second jaws are adapted to engage a spinal fixation element therebetween, and at least one of the jaws being integrally formed with the central portion, and
a locking mechanism having a shank that is receivable within a non-expandable bore formed in the connector member, the locking mechanism being adapted to come into contact with each of the first and second jaws to selectively lock at least one of the first and second jaws in a fixed position.
2. (Original) The implantable spinal cross-connector of claim 1, wherein the locking mechanism includes a non-eccentric head formed on a proximal end of the shaft.
3. (Original) The implantable spinal cross-connector of claim 2, wherein the non-expandable bore formed in the at least one connector member includes an enlarged proximal opening that is adapted to seat a non-eccentric head of the locking mechanism.
4. (Original) The implantable spinal cross-connector of claim 3, wherein the second jaw on the at least one connector member is pivotally mated to the first jaw, and wherein the non-eccentric head of the locking mechanism is effective to move the second jaw from the open position to the closed position when the head is disposed within the enlarged proximal opening of the non-expandable bore.
5. (Original) The implantable spinal cross-connector of claim 1, wherein the shank on the locking mechanism and the non-expandable bore include complementary threads formed thereon.
6. (Original) The implantable spinal cross-connector of claim 1, wherein the locking mechanism is adapted to pull the first and second jaws toward one another into the second, closed

position when the locking mechanism is advanced into the non-expandable bore.

7. (Withdrawn) The implantable spinal cross-connector of claim 1, wherein the locking mechanism is adapted to push the second jaw toward the first jaw into the second, closed position when the locking mechanism is advanced into the non-expandable bore.

8. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws define a substantially C-shaped recess therebetween.

9. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws include a slot formed therebetween and adapted to allow movement of the first and second jaws between the first, open position and the second, closed position.

10. (Original) The implantable spinal cross-connector of claim 9, wherein the non-expandable bore extends through the first and second jaws across the slot such that the locking mechanism is effective to close the slot when the locking mechanism is advanced into the non-expandable bore, thereby moving the first and second jaws from the first, open position to the second, closed position.

11. (Original) The implantable spinal cross-connector of claim 10, wherein the non-expandable bore includes a non-threaded portion formed in the first jaw and a threaded portion formed in the second jaw, and wherein the shank of the locking mechanism includes a non-threaded proximal portion that is adapted to sit within the non-threaded portion of the non-expandable bore formed in the first jaw, and a threaded distal portion that is effective to mate with the threaded portion of the non-expandable bore formed in the second jaw.

12. (Original) The implantable spinal cross-connector of claim 11, wherein the non-threaded proximal portion of the shank of the locking mechanism further includes a head formed thereon that is receivable within an enlarged opening of the non-expandable bore formed in the first jaw.

13. (Original) The implantable spinal cross-connector of claim 1, wherein the first jaw is integrally formed with the at least one connector, and wherein the second jaw is independent from

and pivotally mated to the first jaw.

14. (Withdrawn) The implantable spinal cross-connector of claim 13, further comprising a pivot pin extending through the first and second jaws to allow pivotal movement of the second jaw with respect to the first jaw.

15. (Original) The implantable spinal cross-connector of claim 13, wherein the locking mechanism includes a head formed on the shank that is receivable within an enlarged opening formed in the non-expandable bore, and wherein the head is adapted to pivotally move the second jaw from the first, open position to the second, closed position when the locking mechanism is disposed within the non-expandable bore and the head is disposed within the enlarged opening.

16. (Original) The implantable spinal cross-connector of claim 13, wherein the non-expandable bore is formed in the first jaw and it includes an enlarged opening formed therein for seating a head formed on the shank of the locking mechanism, the enlarged opening being formed adjacent to the second jaw such that the head of the locking mechanism is effective to pivot the second jaw into the second, closed position when the head is disposed within the enlarged opening.

17. (Original) The implantable spinal cross-connector of claim 16, wherein the non-expandable bore is threaded and the locking mechanism comprises a set screw having a threaded shank.

18. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion comprises a substantially elongate member having an adjustable length.

19. (Original) The implantable spinal cross-connector of claim 18, wherein the substantially elongate member is formed from first and second transverse members that are slidably matable to one another.

20. (Original) The implantable spinal cross-connector of claim 19, wherein the first transverse member includes a female mating element, and the second transverse member includes a male mating element that is adapted to be received by the female mating element.

21. (Original) The implantable spinal cross-connector of claim 20, further comprising a central locking mechanism for locking the first and second transverse members at a fixed position with respect to one another.
22. (Original) The implantable spinal cross-connector of claim 19, wherein the first and second transverse members are angularly adjustable with respect to one another along a longitudinal axis of the spinal cross-connector.
23. (Original) The implantable spinal cross-connector of claim 22, wherein the first and second transverse members can be positioned at an angle of about 20° with respect to the longitudinal axis of the spinal cross-connector.
24. (Original) The implantable spinal cross-connector of claim 22, further comprising a central locking mechanism coupled to the first and second transverse members for allowing the first and second transverse members to be locked in a fixed position with respect to one another.
25. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion includes first and second transverse members that are connected to one another by a central clamp that allows angular adjustment of the first and second transverse members with respect to one another along a longitudinal axis of the spinal cross-connector.
26. (Original) The implantable spinal cross-connector of claim 25, further comprising a central locking mechanism formed in the central clamp for locking the first and second transverse members in a fixed position with respect to one another.
27. (Original) The implantable spinal cross-connector of claim 26, wherein the central locking mechanism extends through the central clamp and each of the first and second transverse members, and wherein the locking mechanism is adapted to engage and close the central clamp, thereby locking the first and second transverse members therebetween.

28. (Original) The implantable spinal cross-connector of claim 1, wherein the at least one connector member is angularly adjustable with respect to the central portion.
29. (Original) The implantable spinal cross-connector of claim 28, wherein the at least one connector member includes a bend zone formed between the connector member and the central portion to allow angular movement of the connector member with respect to the central portion.
30. (Withdrawn) The implantable spinal cross-connector of claim 1, further comprising first and second connector members formed on opposed terminal ends of the central portion, and wherein the central portion includes a bend zone formed at a substantial mid-point thereof for allowing angular movement of each connector member with respect to the central portion.
31. (Original) The implantable spinal cross-connector of claim 1, wherein the first and second jaws each include a clamping surface formed thereon that is adapted to seat a spinal rod therebetween.
32. (Original) The implantable spinal cross-connector of claim 31, wherein the clamping surface of at least one of the first and second jaws includes at least one surface feature formed thereon to facilitate engagement of a rod between the first and second jaws.
33. (Original) The implantable spinal cross-connector of claim 32, wherein the surface feature comprises a series of ridges formed on the clamping surface.
34. (Original) The implantable spinal cross-connector of claim 1, wherein the central portion comprises first and second transverse members that are movable between an open position, in which the first and second transverse members are substantially longitudinally aligned with one another, and a second position, in which the first and second transverse members are positioned at an angle with respect to one another.
35. (Withdrawn) The implantable spinal cross-connector of claim 34, wherein the first and second members are biased to the second position.

36. (Original) The implantable spinal cross-connector of claim 1, wherein the spinal fixation element comprises a spinal rod.

37. (Previously Presented) An implantable spinal cross-connector, comprising:

at least one connector member integrally formed on a terminal end of an elongate member and having first and second opposed jaws that are biased to an open position, in which at least a portion of the first and second jaws are spaced apart from one another, the first and second opposed jaws including a bore formed therein, a portion of the bore formed in the second jaw being threaded; and

a threaded locking mechanism effective to mate with the threaded portion of the bore in the second jaw to move at least one of the first and second jaws toward one another into a closed position, in which the jaws are effective to engage a spinal fixation element therebetween.

38. (Cancelled).

39. (Previously Presented) The implantable spinal cross-connector of claim 37, wherein the first and second opposed jaws are at least partially separated by an elongate slot, and wherein the bore extends across the elongate slot.

40-50. (Cancelled).

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